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Tal I. Lavian

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EXAMINER

LEE, ANDREW CHUNG CHEUNG

ART UNIT

PAPER NUMBER

2619

NOTIFICATION DATE

DELIVERY MODE

05/30/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 09/747,296	<b>Applicant(s)</b> LAVIAN ET AL.	
	<b>Examiner</b> Andrew C. Lee	<b>Art Unit</b> 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. Claims 1, 3 – 24 are pending.

Claim 2 had been canceled.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 – 10, 12 – 15, 17, 19 – 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al. (U.S. 6094435) in view of Hill et al. (US 6870840 B1).

Regarding **Claims 1, 20**, Hoffman et al. disclose a packet forwarding device ("multilayer network element" interpreted as a packet forwarding device; Fig.1, Fig. 2, element 12, col. 8, lines 55 – 60) comprising: monitoring types of packet traffic received in the packet forwarding device ("keeps track of the addresses of the end stations that transmit a packet showing up on one of ports" interpreted as monitoring types of packet traffic received; Fig. 1, col. 7, lines 6 – 10, " address independent classes" interpreted as types of packets; col.13, lines 14 – 29); and determine whether environmental conditions of reception of packet traffic in the packet forwarding device meet predetermined criteria ("depending on

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the configuration of the network or the particular protocol in use....adding a class identifier allows the switching element to respond to varying network situations" interpreted as determining whether environmental conditions of reception of packet traffic in the packet forwarding device meet predetermined criteria; col.13, lines 2 – 19); in response to environmental conditions meeting predetermined criteria ("when the conditions for transmission are met" interpreted as when the environmental conditions of reception of packet traffic meet the predetermined criteria; col. 10, line 28), Hoffman et al. disclose implicitly when the type of packet traffic is unicast type (col. 17, lines 5 – 9), selectively modifying a priority queue associated with the traffic in response to a destination parameter of the packet traffic ("whether any priority should be associated with the packet "; col. 15, lines 57 – 65, col. 17, lines 5 – 9); and, in response to environmental conditions meeting predetermined criteria ("when the conditions for transmission are met" is interpreted as when the environmental conditions of reception of packet traffic meet the predetermined criteria; col. 10, line 28), Hoffman et al. also disclose implicitly when the type of traffic is multicast type ("the entry may indicate whether the packet is part of a multicast routing" interpreted as the type of traffic is multicast type; col.16, lines 64 – 65), selectively modifying a priority queue associated with the traffic in response to a source parameter of the packet traffic ("whether any priority should be associated with the packet "; col. 15, lines 57 – 67, col. 16, lines 1 - 2, lines 61 – 67, col. 17, lines 1 – 2, 15 – 31), Hoffman et al. further disclose wherein the step of selectively modifying the priority queue associated with the packet traffic includes performing at least one of changing

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assignment of the packet traffic from a queue having a first priority to a queue having a second priority ( “generates the queue selection” interpreted as to changing assignment of the predetermined type of packet traffic from a queue , Q1 low priority queue as best effort queue (second priority) and Q3 as high priority queue (first priority); Fig. 8, col. 19, 63 – 67, col. 20, lines 1 – 23), dropping packets of the packet traffic (“the queue Qi having the lowest priority, overflows, then the packets are discards” correlates to dropping packets of the packet traffic, col. 22, lines 46 – 50, 56 – 63), copying packets of the packet traffic, and diverting packets of the predetermined type in the packet traffic (col. 18, lines 41 – 48).

Hoffman et al. do not disclose explicitly when the type of packet traffic is unicast type, selectively modifying a priority queue associated with the traffic in response to a destination parameter of the packet traffic; when the type of traffic is multicast type, selectively modifying a priority queue associated with the traffic in response to a source parameter of the packet.

Hill et al. teach when the type of packet traffic is unicast type (“If, as in this case, the flow state as the first unicast packet” interpreted as when the type of packet traffic is unicast type; Fig. 3, col. 4, lines 48 – 52), selectively modifying a priority queue associated with the traffic in response to a destination parameter of the packet traffic (Fig. 3, col. 4, lines 49 – 62); when the type of traffic is multicast type (“If the flow state is marked as the last multicast packet” interpreted as the type of traffic is multicast type; Fig. 3, col.4, lines 20 – 23), selectively modifying a priority queue associated with the traffic in response to a source parameter of the packet traffic (col. 3, lines 44 – 51, col. 4, lines 22 - 45).

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At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Hoffman et al. to include the features of when the type of packet traffic is unicast type, selectively modifying a priority queue associated with the traffic in response to a destination parameter of the packet traffic; when the type of traffic is multicast type, selectively modifying a priority queue associated with the traffic in response to a source parameter of the packet as taught by Hill et al. One of ordinary skill in the art would be motivated to do so for providing an efficient method and apparatus for accomplishing source learning in a data switch of the type having a plurality of switching modules, each supporting one or more external network devices and a backplane interconnecting the switching modules (as suggested by Hill et al., see col. 1, lines 45 – 49).

Regarding Claims 3 and 23, Hoffman et al. disclose the method claimed wherein sources parameter includes a source MAC address (“an entry for the layer 2 source transmitting the packets” and “the values of the MAC address of the source” interpreted as sources parameter including a source MAC address; col. 11, lines 19 – 25, lines 44 – 47).

Regarding Claim 4, Hoffman et al. disclose the limitation of the method of claimed wherein sources parameter includes a source VLAN (“a virtual LAN (VLAN) identifier” interpreted as sources parameter includes a source VLAN; Fig. 3, col. 9, lines 27 – 33, col. 11, lines 47 – 54).

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Regarding Claims 5, 21, Hoffman et al. disclose the method claimed wherein packet traffic is associated with its ingress port (“the input port has buffered at least the first 64 bytes of the received packet” interpreted as packet traffic is associated with its ingress port; Fig. 3, col. 9, lines 15 – 26).

Regarding Claims 6 and 22, Hoffman et al. disclose packet traffic is based on its destination ( “an entry indicating the port of the destination address” correlates to packet traffic is based on its destination; col. 11, lines 39 – 41).

Regarding Claim 7, Hoffman et al. disclose the limitation of the method of claimed wherein the destination parameter includes a destination MAC address ( “output port need not make any modifications to the header except for inserting its MAC address” interpreted as destination of packet includes a destination MAC address; col. 15, lines 65 – 67).

Regarding Claim 8, Hoffman et al. disclose the method claimed wherein the destination parameter includes a destination VLAN (“a VLAN requires an outgoing tag” interpreted as destination of packet includes a destination VLAN; col. 16, lines 23 – 26, lines 36 – 40).

Regarding Claim 9, Hoffman et al. disclose the method claimed wherein the type of packet traffic is associated with its egress port (“the input port then passes information about where the packet is stored to the appropriate output

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port” correlates to packet traffic is associated with its egress port; col. 10, lines 18 – 31).

Regarding Claim 10, Hoffman et al. disclose the method claimed wherein the type of traffic is based on its protocol (“ARP, RSVP” interpreted as the type of traffic is based on its protocol; col. 13, lines 14 – 29).

Regarding Claim 12, Hoffman et al. disclose the method claimed wherein the protocol of traffic includes HTTP (“http” correlates to the protocol of traffic includes HTTP; col. 13, lines 62 – 65).

Regarding **claim 13**, Hoffman et al. disclose a packet forwarding device (“multilayer network element” interpreted as a packet forwarding device; Fig.1, Fig. 2, element 12, col. 8, lines 55 – 60) method comprising: monitoring environmental conditions of reception of packet traffic in the packet forwarding device (“keeps track of the addresses of the end stations that transmit a packet showing up on one of ports” interpreted as monitoring environmental conditions of reception of packet traffic; Fig. 1, col. 7, lines 6 – 10, “address independent classes” interpreted as types of packets; col.13, lines 14 – 29); determining whether environmental conditions of reception of packet traffic in the packet forwarding device meet predetermined criteria (“depending on the configuration of the network or the particular protocol in use....adding a class identifier allows the switching element to respond to varying network situations” interpreted as



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determining whether environmental conditions of reception of packet traffic in the packet forwarding device meet predetermined criteria; col. 13, lines 2 – 19), and when the environmental conditions of reception of packet traffic meet the predetermined criteria (“when the conditions for transmission are met” is interpreted as when the environmental conditions of reception of packet traffic meet the predetermined criteria; col. 10, line 28), modifying a priority queue to associate with the packet traffic using parameter information associated with a type of packet traffic (“any priority should be associated with the packet on a particular output port .....; col. 15, lines 48 – 54, 60 – 67, col. 16, lines 1 – 2), Hoffman et al. disclose implicitly wherein the type of packet traffic includes unicast and multicast traffic (“whether the packet is part of a multicast routing” and “in a unicast route” interpreted as determining whether a type of packet traffic received in the packet forwarding device is a predetermined type; col. 16, lines 62 – 67, col. 17, lines 1 – 9), and wherein source parameter information is used to associate priority queues with packet traffic for multicast traffic (col. 16, lines 61 – 67, col. 17, lines 1 – 2, 15 – 31) and destination parameter information is used to associate priority queues with packet traffic for unicast traffic (col. 16, lines 61 – 65, col. 17, lines 5 – 9), and Hoffman et al. further disclose wherein the step of selectively modifying the priority includes performing at least one of changing assignment of the packet traffic from a queue having a first priority to a queue having a second priority (“generates the queue selection” interpreted as changing assignment of the predetermined type of packet traffic from a queue , Q1 low priority queue as best effort queue (second priority) and Q3 as high priority queue

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(first priority); Fig. 8, col. 19, 63 – 67, col. 20, lines 1 – 23), dropping packets of the packet traffic (“the queue Qi having the lowest priority, overflows, then the packets are discards” interpreted as dropping packets of the packet traffic, column 22, lines 46 – 50, 56 – 63), copying packets of the packet traffic, and diverting packets of the predetermined type in the packet traffic (col. 18, lines 41 – 48).

Hoffman et al. do not disclose explicitly wherein the type of packet traffic includes unicast and multicast traffic, and wherein source parameter information is used to associate priority queues with packet traffic for multicast traffic and destination parameter information is used to associate priority queues with packet traffic for unicast traffic.

Hill et al. teach wherein the type of packet traffic includes unicast and multicast traffic (“If, as in this case, the flow state as the first unicast packet” and “If the flow state is marked as the last multicast packet” interpreted as the type of packet traffic includes unicast and multicast traffic; Fig. 3, col. 4, lines 48 – 52, lines 20 – 23), and wherein source parameter information is used to associate priority queues with packet traffic for multicast traffic (col. 3, lines 44 – 51, col. 4, lines 22 – 45) and destination parameter information is used to associate priority queues with packet traffic for unicast traffic (Fig. 3, col. 4, lines 49 – 62).

At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Hoffman et al. to include the features of wherein the type of packet traffic includes unicast and multicast traffic, and wherein source parameter information is used to associate priority queues with packet traffic for multicast traffic and destination parameter information is

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used to associate priority queues with packet traffic for unicast traffic as taught by Hill et al. One of ordinary skill in the art would be motivated to do so for providing an efficient method and apparatus for accomplishing source learning in a data switch of the type having a plurality of switching modules, each supporting one or more external network devices and a backplane interconnecting the switching modules (as suggested by Hill et al., see col. 1, lines 45 – 49).

Regarding Claim 14, Hoffman et al. disclose the method claimed wherein the environmental conditions meeting the predetermined criteria include time of day (“monitored one at a time” and “the scheme detects misbehavior of flows over a period of time” interpreted as environmental conditions meeting the predetermined criteria include time of day; col. 22, lines 8 – 16).

Regarding Claim 15, Hoffman et al. disclose the environmental conditions meeting the predetermined criteria including network configuration changes (“depending on the configuration of the network” and “allows the switching element to responds to varying network situation” interpreted as the environmental conditions meeting the predetermined criteria including network configuration changes; col. 13, lines 11 –19).

Regarding claim 17, Hoffman et al. disclose the method claimed wherein the network configuration changes include network congestion (“congestion may

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occur in the network element” interpreted as network configuration changes include network congestion; col. 21, lines 37 – 41).

Regarding Claim 19, Hoffman et al. disclose the environmental conditions meeting the predetermined criteria including line use of high level protocols ( “address independent classes” interpreted as environmental conditions meeting the predetermined criteria; “ARP, RSVP” or “http” as high level protocols; col. 13, lines 14 – 29, lines 62 – 65).

Regarding Claim 24, Hoffman et al. disclose the method claimed wherein at least some of the traffic patterns are based on specified IP flows (“when the class indicates that the packet is of a class hardware routable IP” correlates to the traffic patterns are based on specified IP flows; col. 13, lines 20 – 29; col. 14, lines 29 – 31).

4. Claims 11, 16, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al. (U.S. 6094435) and Hill et al. (US 6870840 B1) as applied to claims 1, 3 – 10, 12 – 15 above, and further in view of Bowman-Amuah (US 6611867 B1).

Regarding Claim 11, Hoffman et al. disclose a packet forwarding device ( “multilayer network element” interpreted as a packet forwarding device; Fig.1, Fig. 2, element 12, col. 8, lines 55 – 60). Hoffman et al. and Hill et al. do not

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disclose explicitly the protocol of traffic includes FTP. Bowman-Amuah discloses the limitation of a packet forwarding device (Fig. 1A, element Data Access Points; col. 26, lines 47 – 56) and the protocol of traffic including FTP (“internet services such as FTP” correlates to the protocol of traffic including FTP; col. 54, lines 61 – 67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hoffman et al. and Hill et al. to include the features of a protocol of traffic includes FTP as taught by Bowman-Amuah in order to provide a hybrid network be provisioned in accordance with the network problems and service requests (as suggested by Bowman-Amuah, see col. 2, lines 17 – 19).

Regarding Claim 16, Hoffman et al. disclose a packet forwarding device ( “multilayer network element” interpreted as a packet forwarding device; Fig.1, Fig. 2, element 12, col. 8, lines 55 – 60). Hoffman et al. also teach network configuration changes (“depending on the configuration of the network” and “allows the switching element to responds to varying network situation” interpreted as the environmental conditions meeting the predetermined criteria including network configuration changes; col. 13, lines 11 –19).

Hoffman et al. and Hill et al. do not disclose explicitly the method claimed the network configuration changes including network failures.

Bowman-Amuah teaches the method claimed herein the network configuration changes including network failures (“if non-service affecting

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network failure occurs” interpreted as network configuration changes including network failures; Fig. 35, col. 77, lines 45 – 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hoffman et al. and Hill et al. to include the features of claimed herein the network configuration changes including network failures as taught by Bowman-Amuah in order to provide a network management layer may handle the failure without notifying the Service management Layer (SML) (as suggested by Bowman-Amuah, see col.77, lines 50 – 52).

Regarding Claim 18, Hoffman et al. disclose a packet forwarding device ( “multilayer network element” interpreted as a packet forwarding device; Fig.1, Fig. 2, element 12, col. 8, lines 55 – 60). Hoffman et al. also teach network configuration changes (“depending on the configuration of the network” and “allows the switching element to responds to varying network situation” interpreted as the environmental conditions meeting the predetermined criteria including network configuration changes; col. 13, lines 11 –19).

Hoffman et al. and Hill et al. do not disclose explicitly the method of claimed wherein the network configuration changes including network error rates.

Bowman-Amuah teaches claimed wherein the network configuration changes including network error rates (“a poor error rate at these speeds” interpreted as including network error rates; col. 48, lines 36 – 44).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hoffman et al. and Hill et al. to include the method of claimed wherein the network configuration changes including network error rates such as that taught by Bowman-Amuah in order to provide a hybrid network be provisioned in accordance with the network problems and service requests (as suggested by Bowman-Amuah, see col. 2, lines 17 – 19).

### ***Response to Arguments***

5. Applicant's arguments filed on 2/13/2008 with respect to claims 1, 3 – 24 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kadambi et al. (US 6850521 B1).
- Wilford et al. (6687247 B1).
- Ahearn et al. (5926463

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C Lee/  
Examiner, Art Unit 2619  
<5/25/2008>

/Edan Orgad/  
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